

FIG. 1

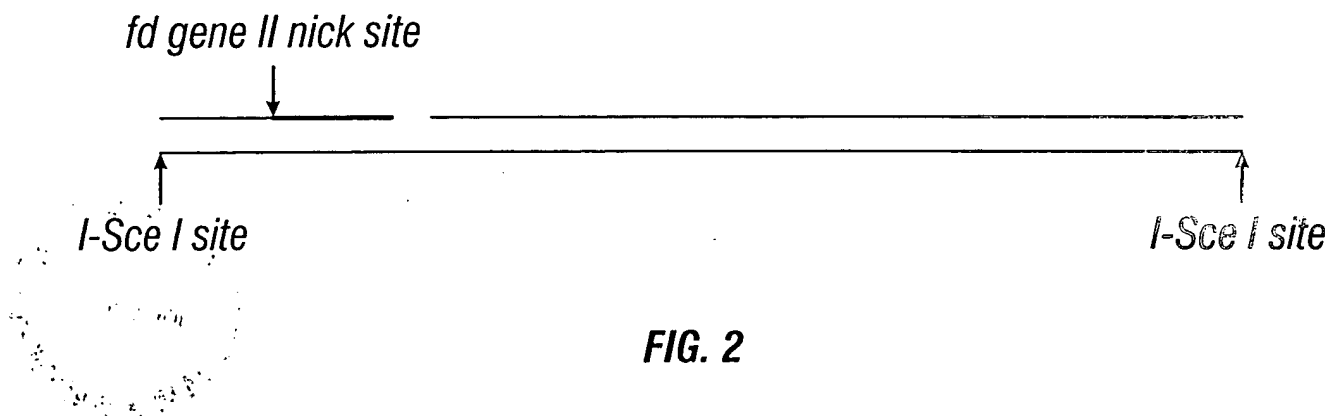


FIG. 2

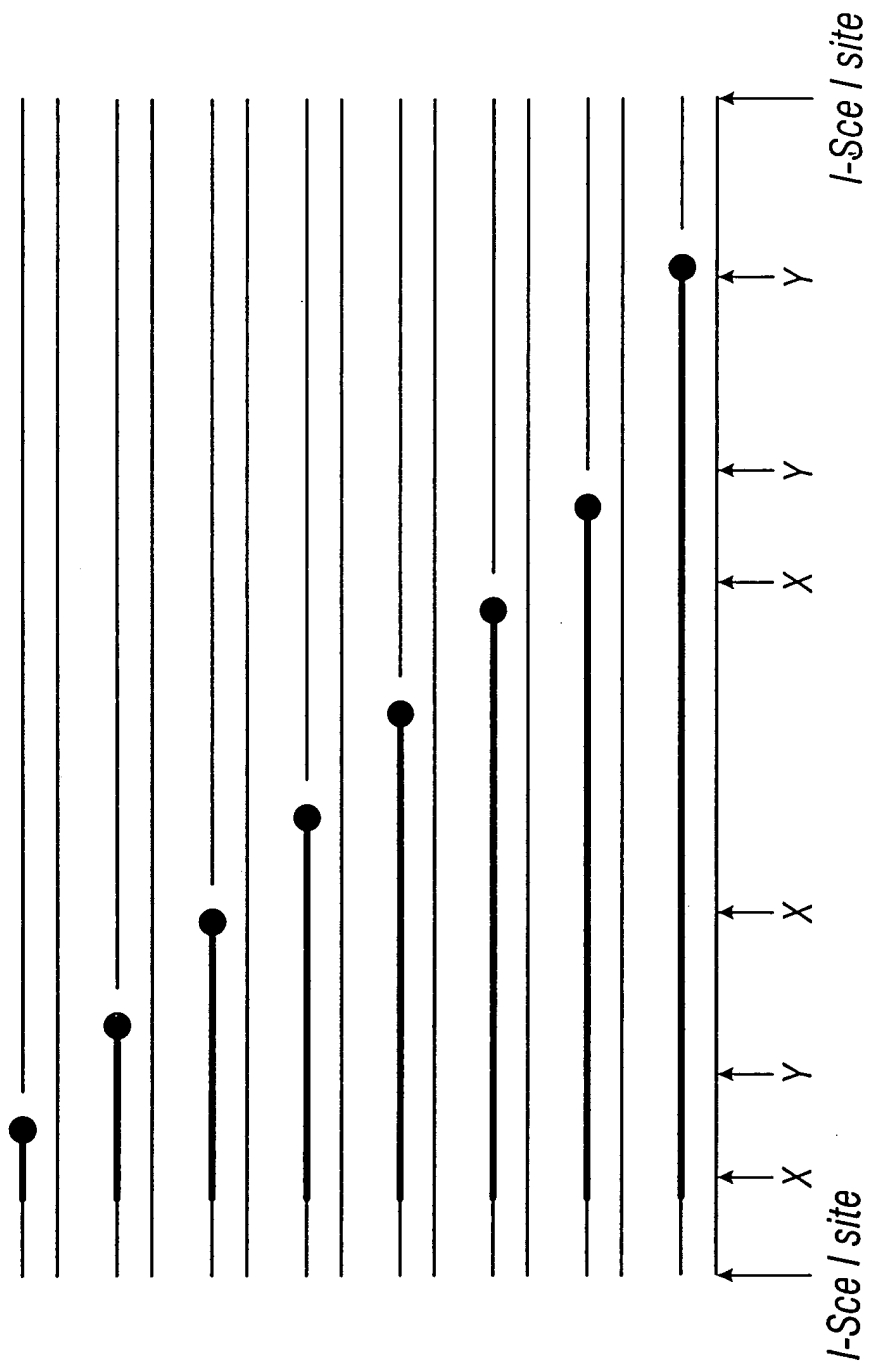


FIG. 3

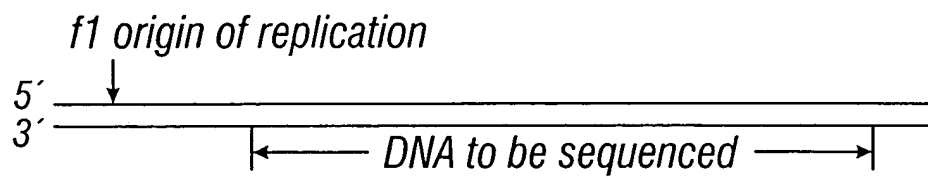


FIG. 4A

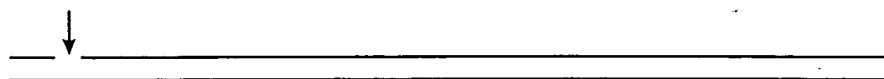


FIG. 4B



FIG. 4C



FIG. 4D



FIG. 4E

09801346-080601

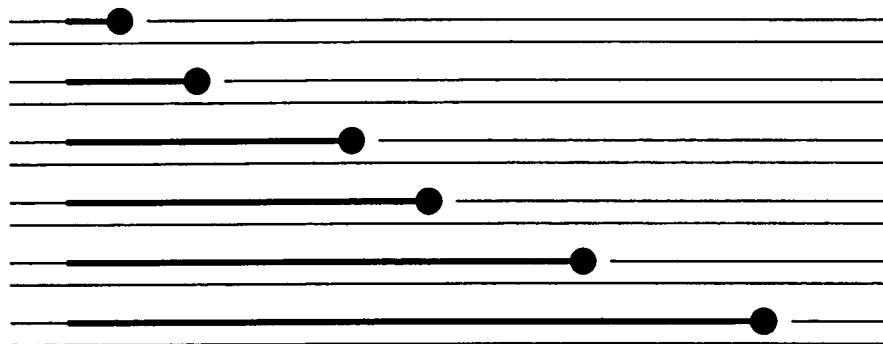


FIG. 4F

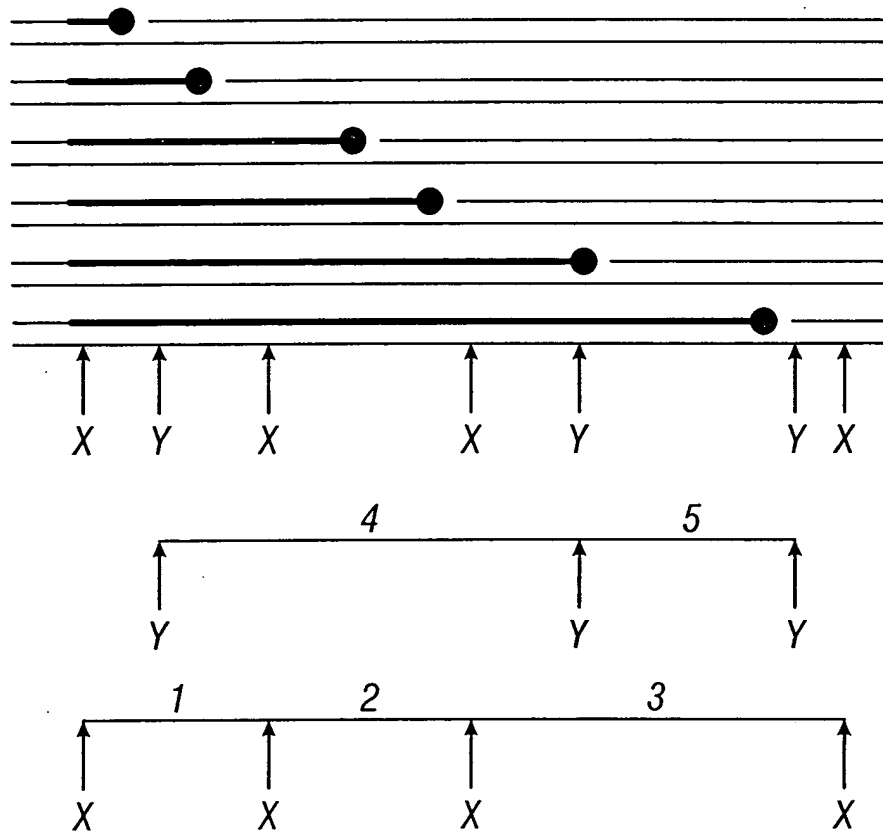


FIG. 4G

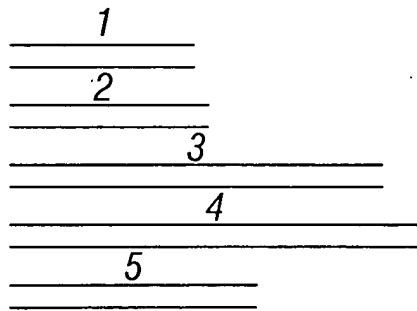


FIG. 4H

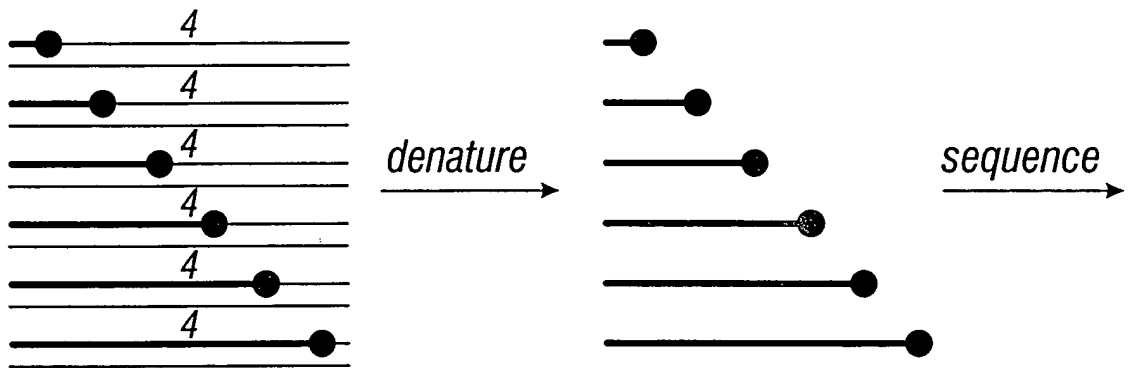


FIG. 4I

09801345-080601

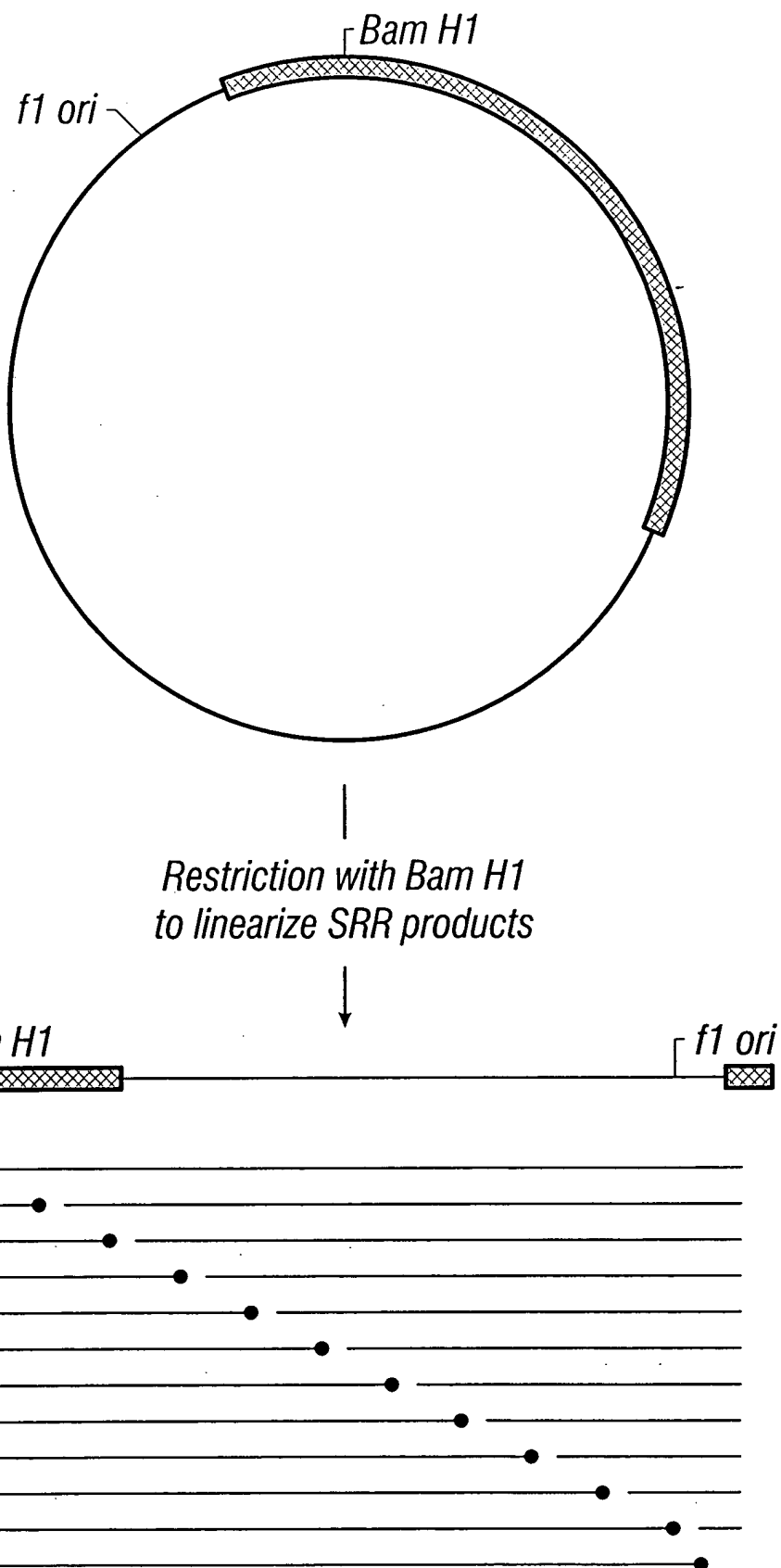
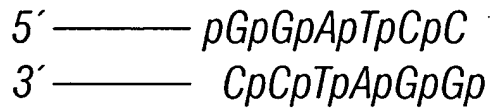
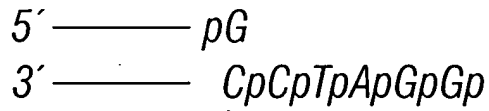


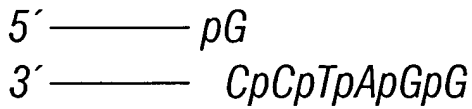
FIG. 5



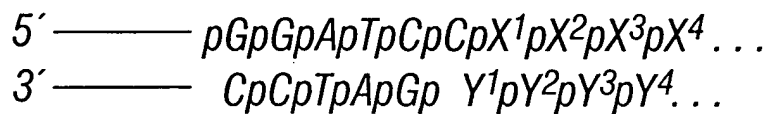
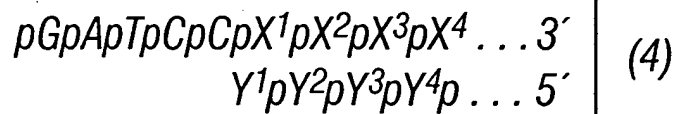
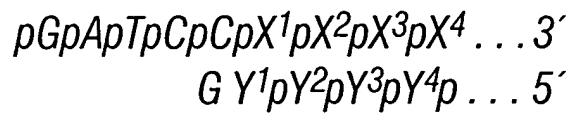
(1)



(2)



(3)



STRAND REPLACEMENT REACTION

FIG. 6

09301346.03601



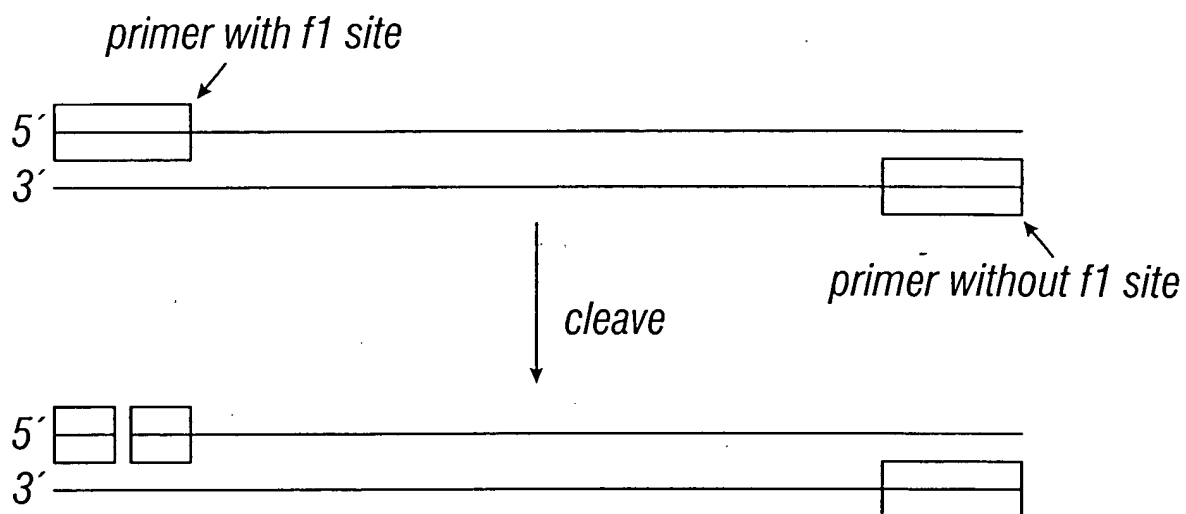


FIG. 7A

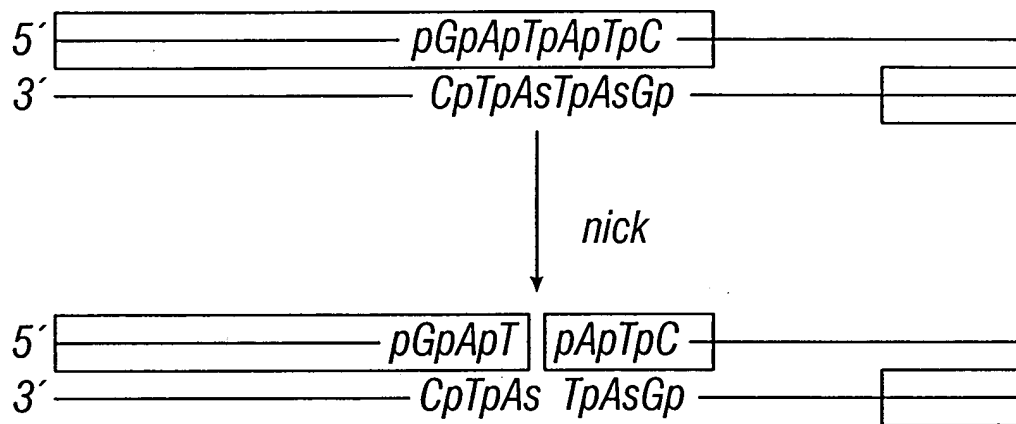


FIG. 7B

03030-94ET0350

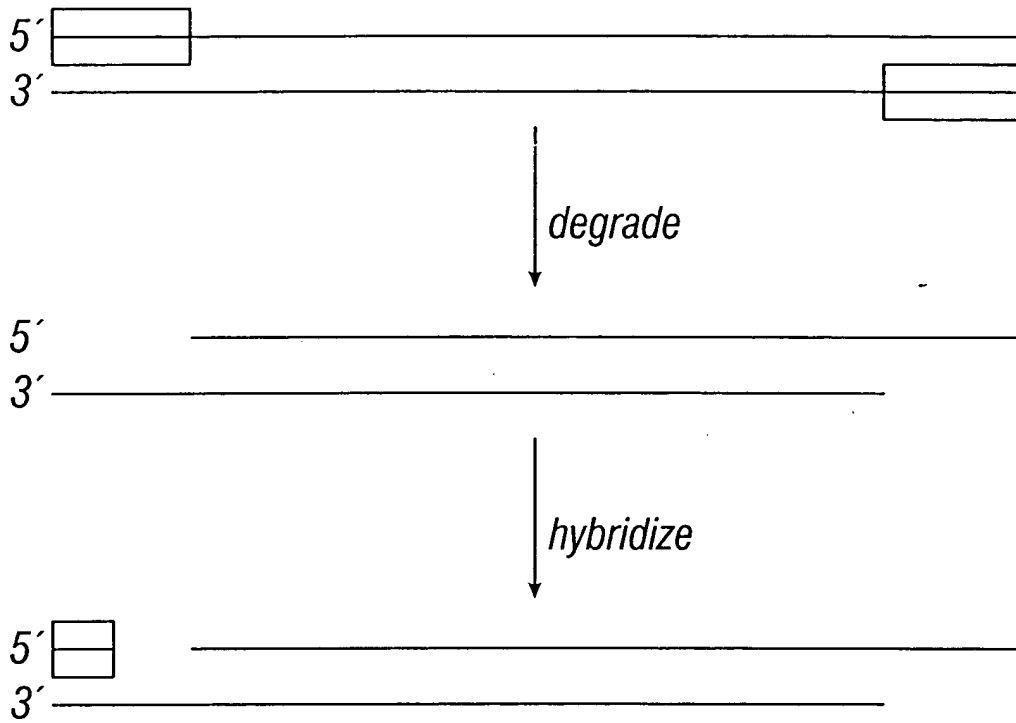


FIG. 7C

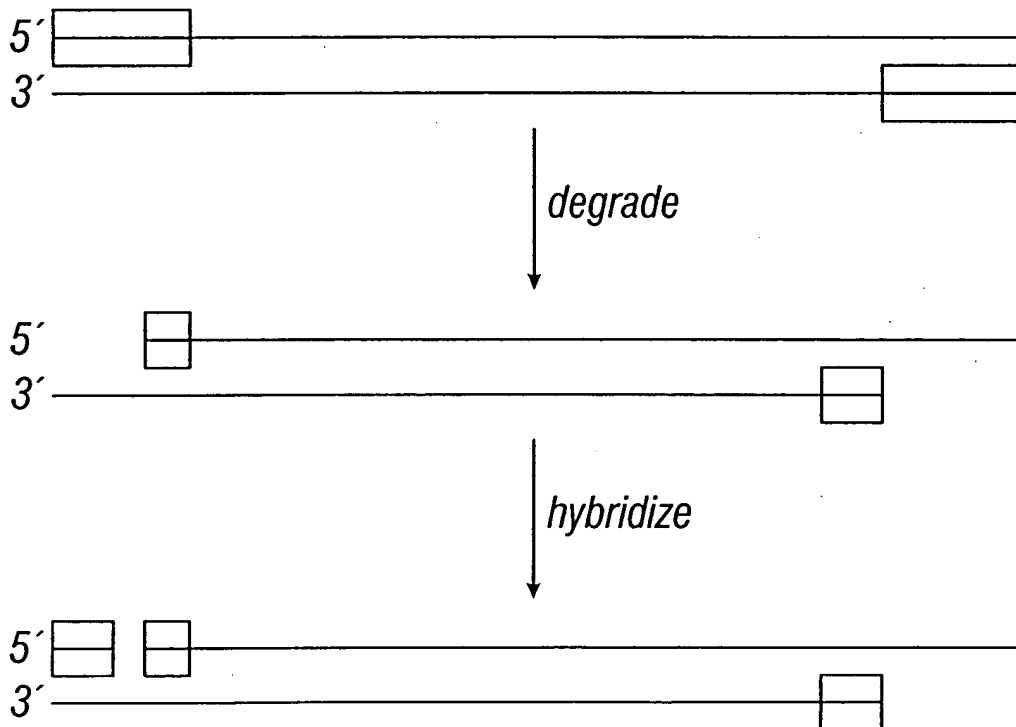


FIG. 7D

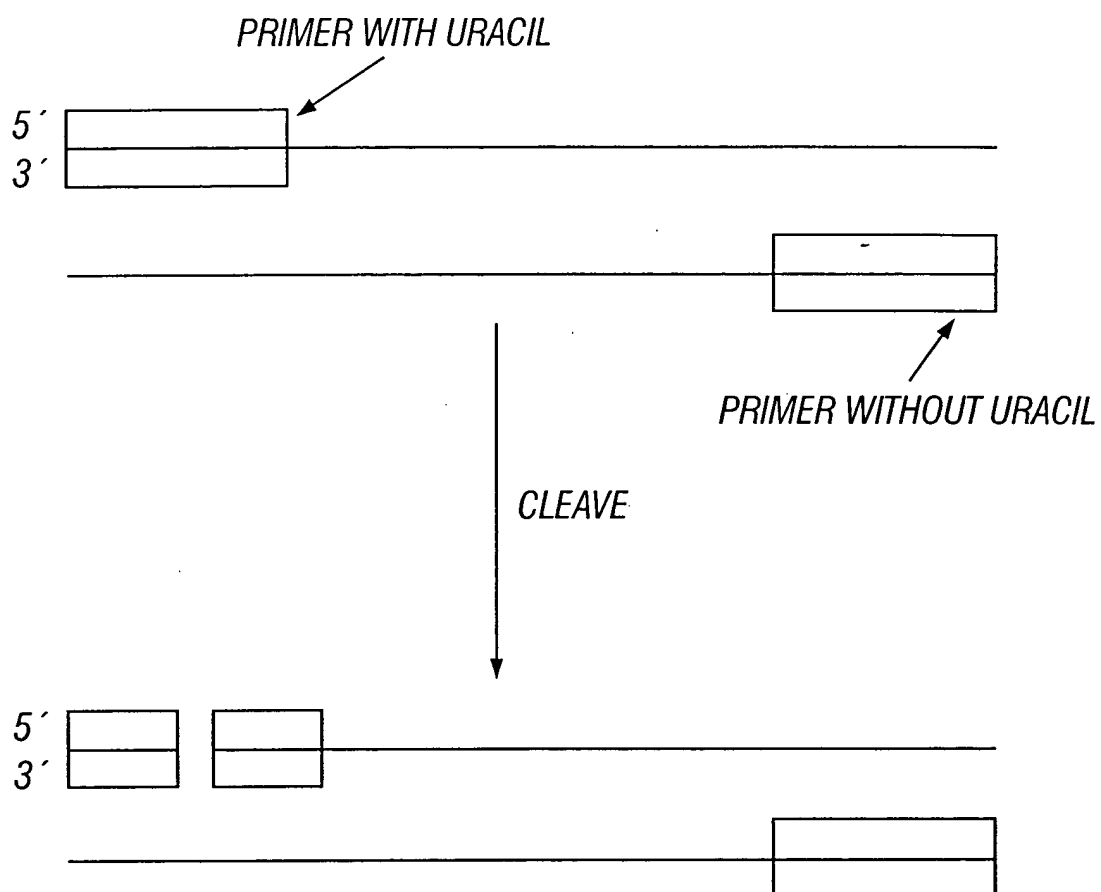
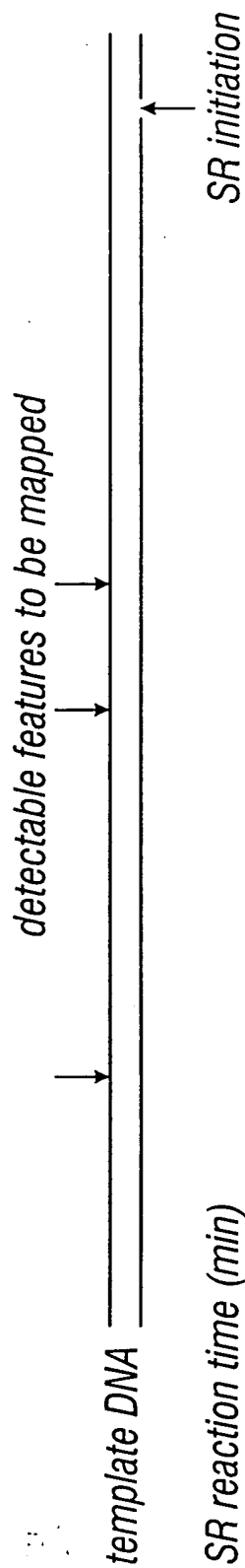
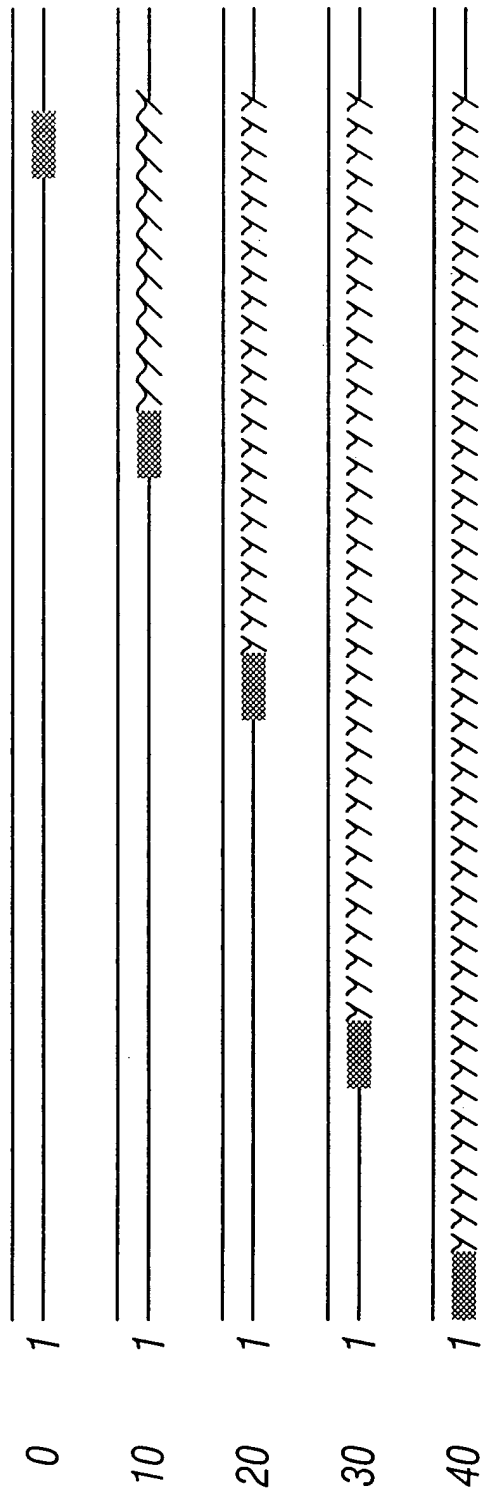


FIG. 7E



with dUTP with dTTP



= thymidine-containing DNA synthesized by SR
 = uridine-containing DNA synthesized by SR

FIG. 8

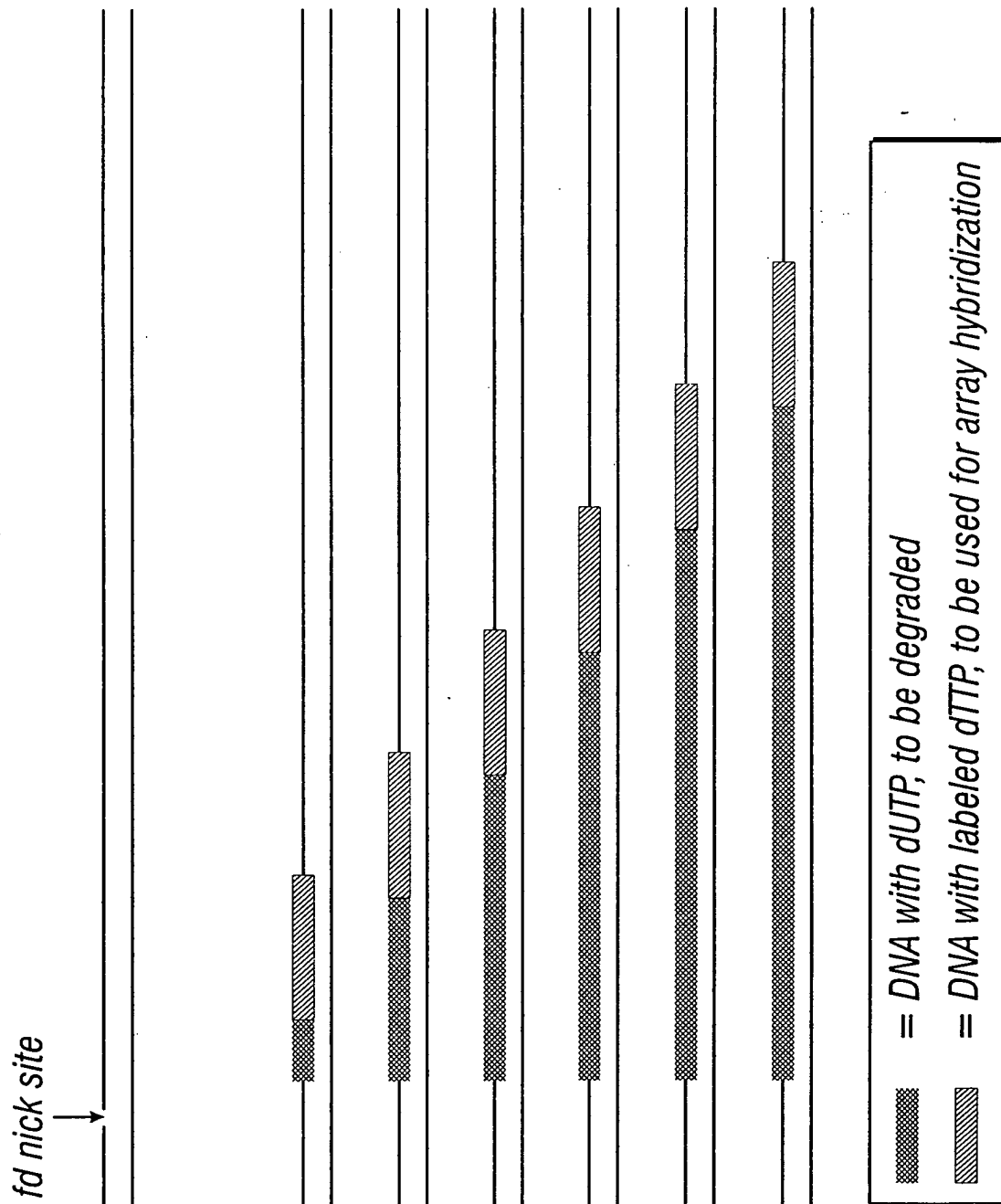


FIG. 9

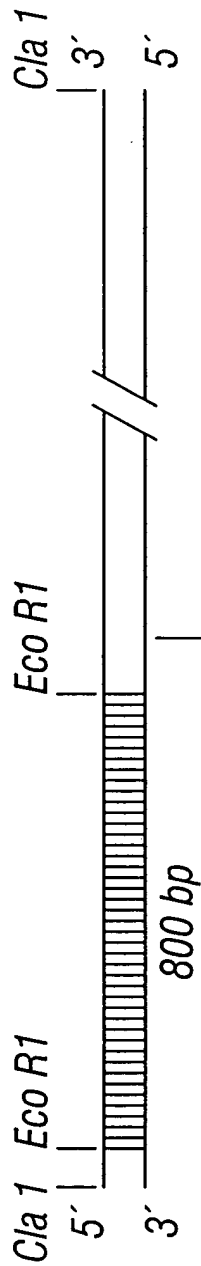


FIG. 10A

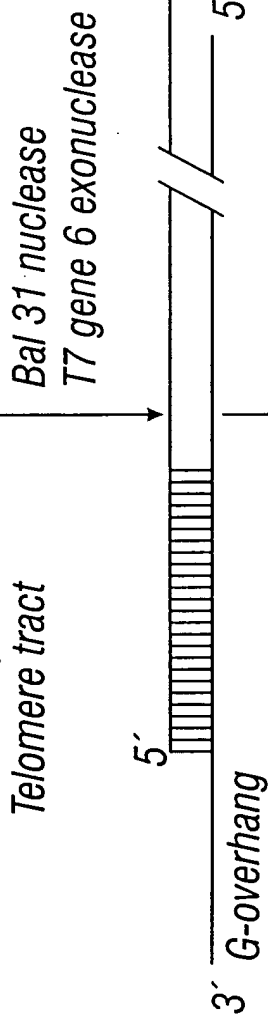


FIG. 10B

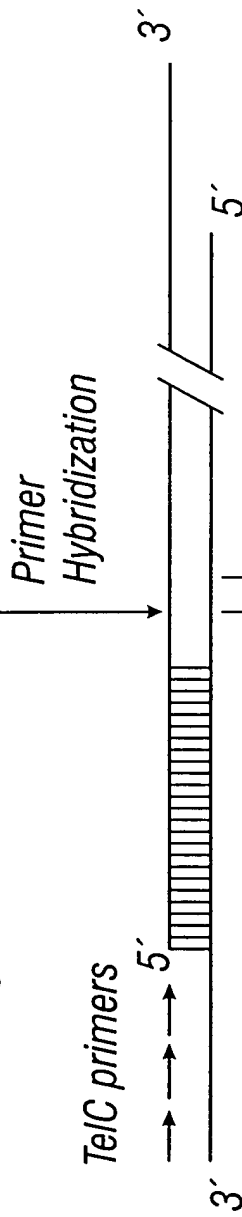


FIG. 10C

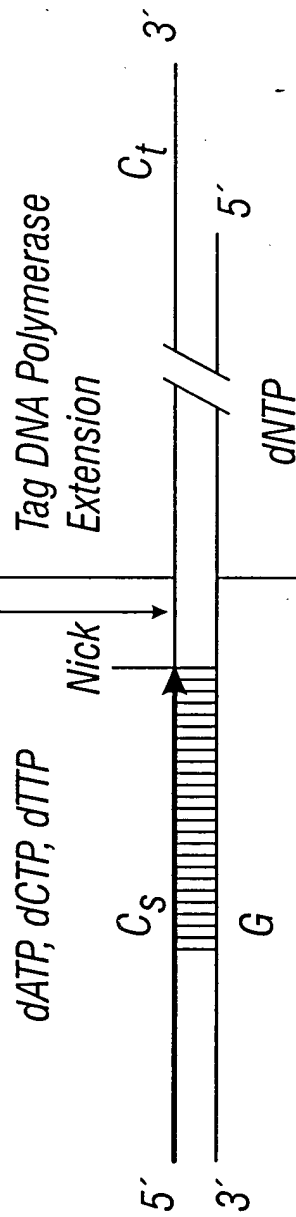


FIG. 10D

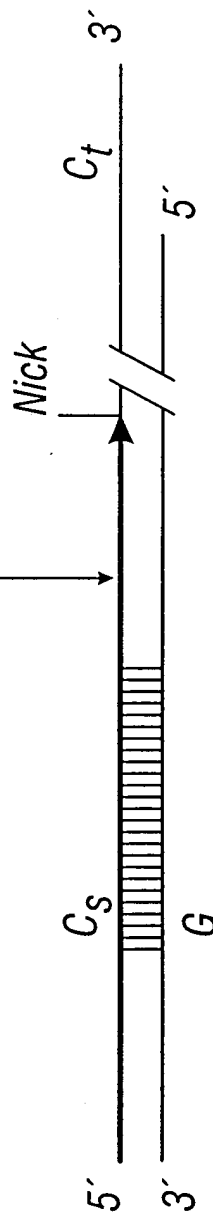


FIG. 10E

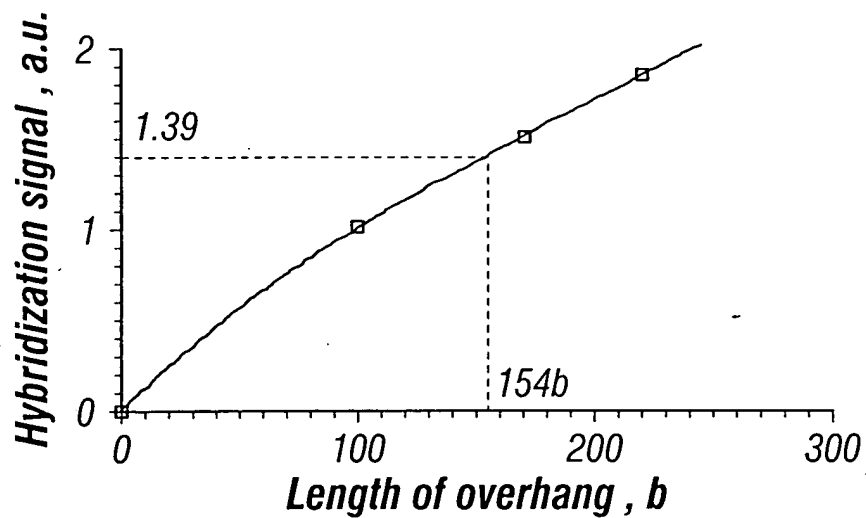
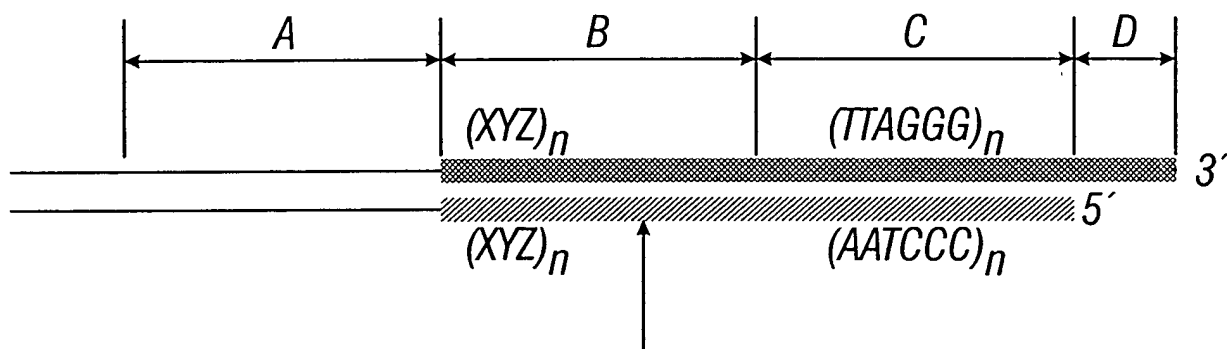


FIG. 11



site of first guanine in the C-rich strand

reaction time (min)

10



20



30

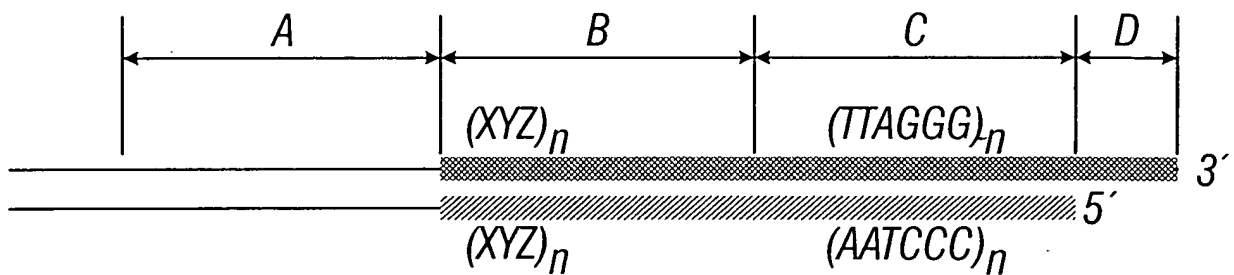


40



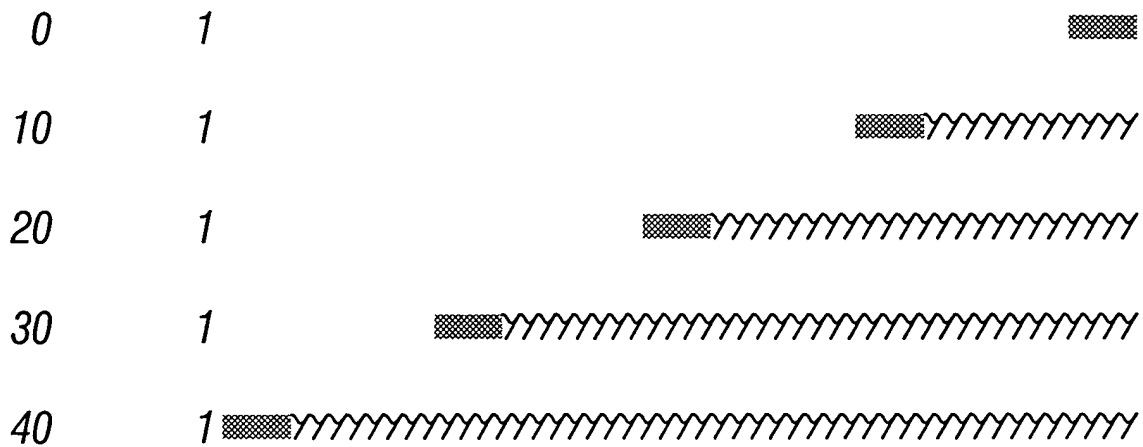
▨ = DNA synthesized by SR using only dATP, dTTP, and dCTP

FIG. 12



reaction time (min)

with dUTP with dTTP



= thymidine-containing DNA synthesized by PENT
 = uridine-containing DNA synthesized by PENT

FIG. 13

^B
1 2 3 4 5 6 7 8 9 ^A
1 2 3 4 5 6 7 8 9

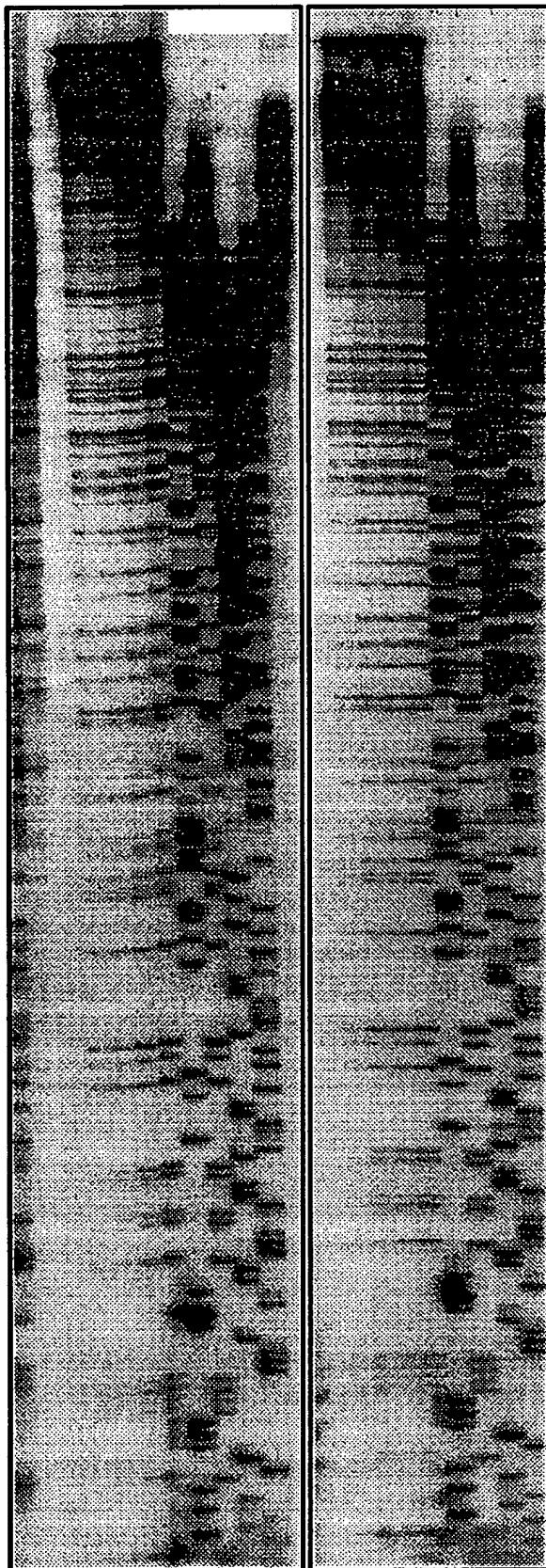


FIG. 14B

FIG. 14A

5' O-----T-A-C-T-A-T-G-G-T-T-T-A-----3' PCR-AMPLIFIED WITH DETECTION TAG AT 5' END OF
 3' -----A-T-G-A-T-A-C-C-A-A-A-T-----5' PRIMER X. NUMBERS LABEL THE 12 UNKNOWN BASES.
 1 2 3 4 5 6 7 8 9 10 11 12
 PRIMER X UNKNOWN DNA SEQUENCE PRIMER Y
 RANDOM DEGRADATION (ONLY DAMAGED UPPER STRAND SHOWN)

O-----	A-C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T- G-T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T- C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G- T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A- T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G- T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C- A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T- T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T- T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T- A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T-A- G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T-T-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----

15A
15B

FIG. 15

EXPOSE 3'OH AT DAMAGE SITES

O-----	A-C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T G-T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T-A G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T-T-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----

FIG. 15A

INCORPORATE BIOTINYLATED DDTTP AT POSITIONS
OPPOSITE ADENINE IN TEMPLATE STRAND

O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T.A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T- -----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----

IMMOBILIZE BIOTINYLATED STRANDS AND REMOVE
NON-BIOTINYLATED STRANDS

O-----T.	O-----T-A-C-T-A-T-G-G-T.
O-----T-A-C-T.	O-----T-A-C-T-A-T-G-G-T-T.
O-----T-A-C-T-A-T.	O-----T-A-C-T-A-T-G-G-T-T-T.

RELEASE BIOTINYLATED STRANDS, SEPARATE BY
ELECTROPHORESIS, AND DETECT TAGGED PRIMERS
(DARK BARS REPRESENT POSITIONS OF THYMINE)

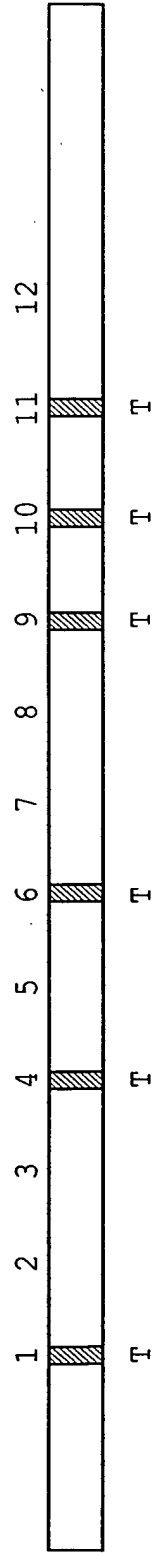


FIG. 15B

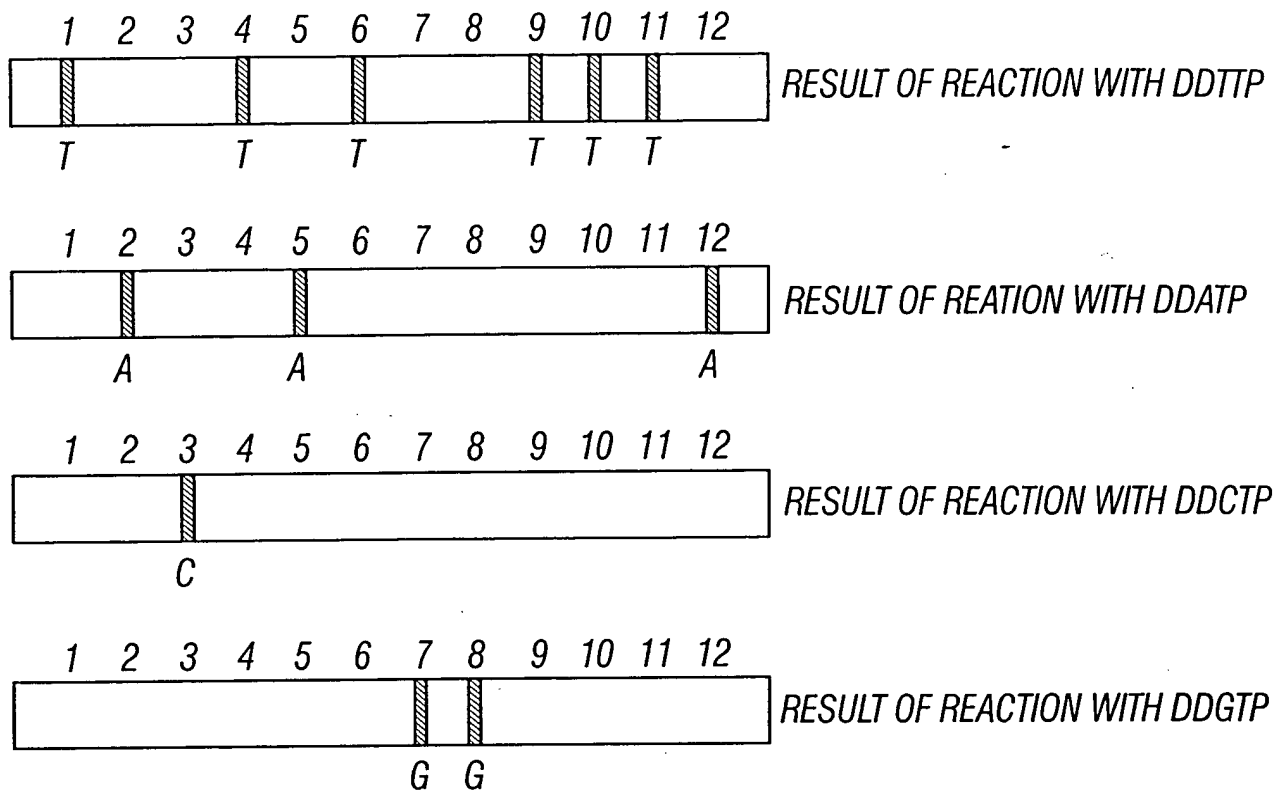


FIG. 16A

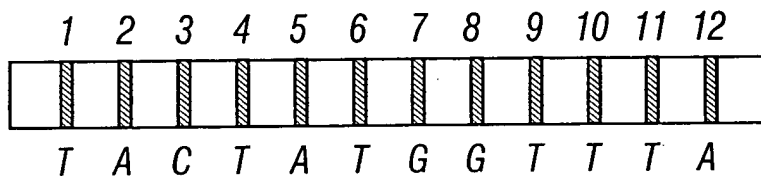


FIG. 16B

5' O-----T-A-C-T-A-T-G-G-T-T-T-A-----3' PCR-AMPLIFIED WITH DETECTION TAG AT 5' END OF
 3' -----A-T-G-A-T-A-C-C-A-A-A-T-----5' PRIMER X. NUMBERS LABEL THE 12 UNKNOWN BASES.
 1 2 3 4 5 6 7 8 9 10 11 12
 PRIMER X UNKNOWN DNA SEQUENCE PRIMER Y

O-----A-C-T-A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T- C-T-A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A- T-A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C- A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T- T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A- G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----

O-----T-A-C-T-A-T- G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G- T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G- T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G-T- T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G-T-T- A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G-T-T-T-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----

EXPOSE 3'OH AT DAMAGE SITES

O-----A-C-T-A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T C-T-A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A T-A-T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T T-G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A G-G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----

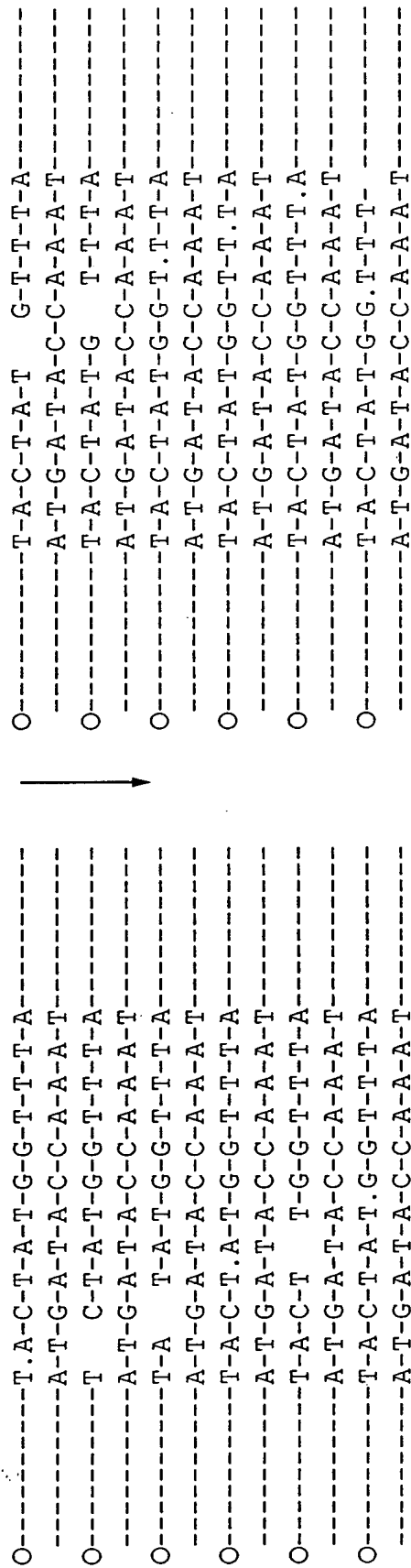
O-----T-A-C-T-A-T- G-T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G T-T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G T-T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G-T T-A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G-T-T A-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----
 O-----T-A-C-T-A-T-G-G-T-T-T-----
 -----A-T-G-A-T-A-C-C-A-A-A-T-----

17A
17B

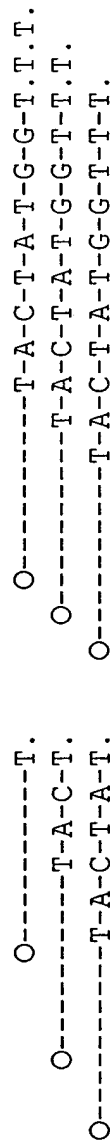
FIG. 17A

FIG. 17

incorporate biotinylated ddTTP at positions
opposite adenine in template strand



immobilize biotinylated strands and remove
non-biotinylated strands



release biotinylated strands, separate by
electrophoresis, and detect tagged primers
(dark bars represent positions of terminal thymine)

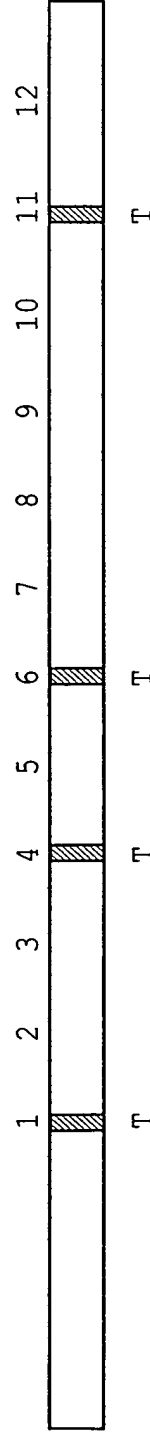


FIG. 17B

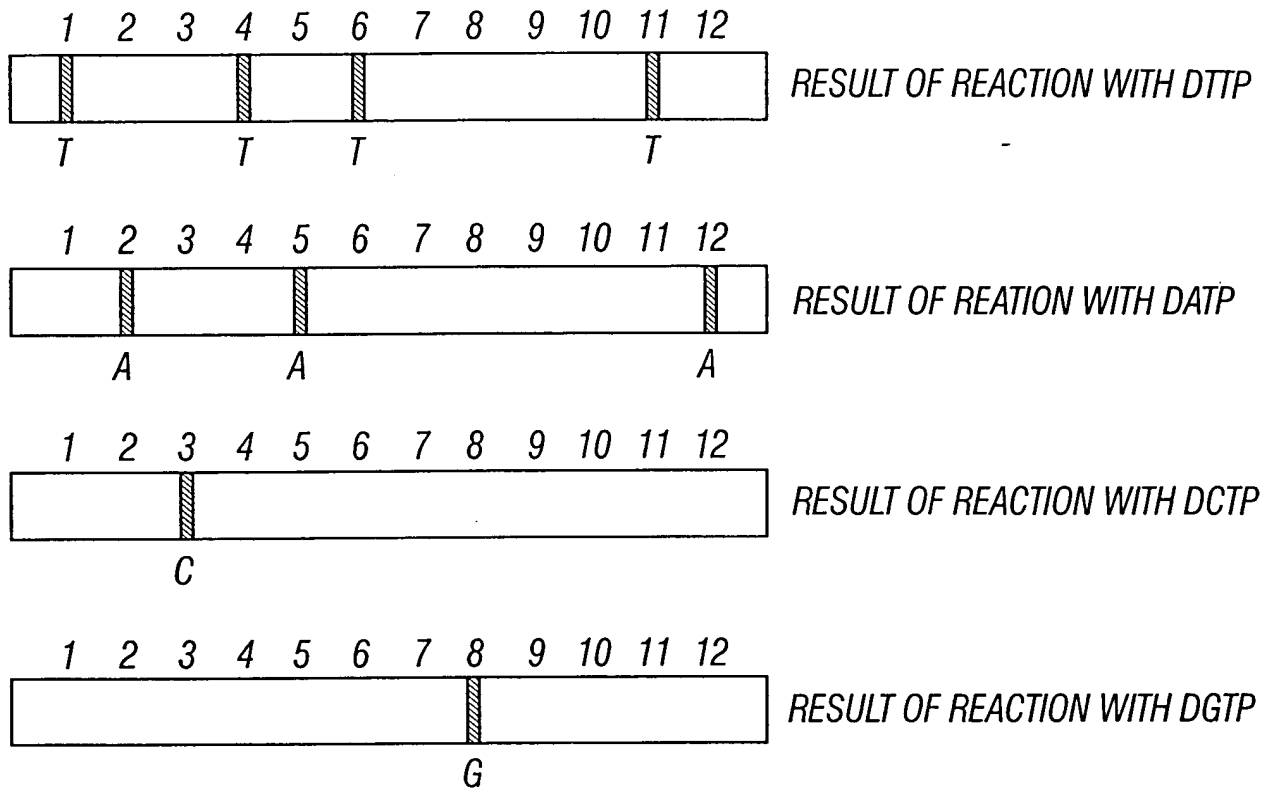


FIG. 18A

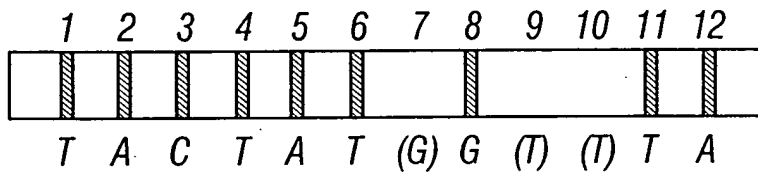


FIG. 18B

5' O-----T-A-C-T-A-T-G-G-T-T-T-A-----3' PCR-AMPLIFIED IMMOBILIZED AT 5' END OF PRIMER
 3' -----A-T-G-A-T-A-C-C-A-A-A-T-----5' X. NUMBERS LABEL THE 12 UNKNOWN BASES.
 1 2 3 4 5 6 7 8 9 10 11 12
 PRIMER X UNKNOWN DNA SEQUENCE PRIMER Y

RANDOM DEGRADATION (ONLY DAMAGED UPPER STRAND SHOWN)

O-----	A-C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T- G-T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G- T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A- T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G- T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C- A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-T- T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T- T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T- A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T-A- G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T-T-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----

EXPOSE 3'OH AT DAMAGE SITES

O-----	A-C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T G-T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	C-T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G T-T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A- T-A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C- A-T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-T T-T-A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T T-G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T A-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----
O-----	T-A-C-T-A G-G-T-T-T-A-----	O-----	T-A-C-T-A-T-G-G-T-T-T-----
-----	A-T-G-A-T-A-C-C-A-A-A-T-----	-----	A-T-G-A-T-A-C-C-A-A-A-T-----

19A
19B

FIG. 19A

FIG. 19

INCORPORATE TAGGED DDTTP AT POSITIONS
OPPOSITE ADENINE IN TEMPLATE STRAND

O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T	G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G	T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----	-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T.A-----	-----T-A-C-T-A-T-G-G-T-T-T.A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-T-----	-----T-A-C-T-A-T-G-G-T-T-T-T-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----

DENATURE AND WASH TO REMOVE ALL STRANDS THAT ARE
NOT TAGGED AT 5' END

O-----T.	O-----T-A-C-T-A-T
O-----T	O-----T-A-C-T-A-T-G
O-----T-A	O-----T-A-C-T-A-T-G-G-T.
O-----T-A-C-T.	O-----T-A-C-T-A-T-G-G-T-T.
O-----T-A-C-T	O-----T-A-C-T-A-T-G-G-T-T-T.
O-----T-A-C-T-A-T.	O-----T-A-C-T-A-T-G-G-T-T-T-T-

MOBILIZE STRANDS, SEPARATE BY
ELECTROPHORESIS, AND DETECT TAGGED BASES
(DARK BARS REPRESENT POSITIONS OF THYMINE)



FIG. 19B

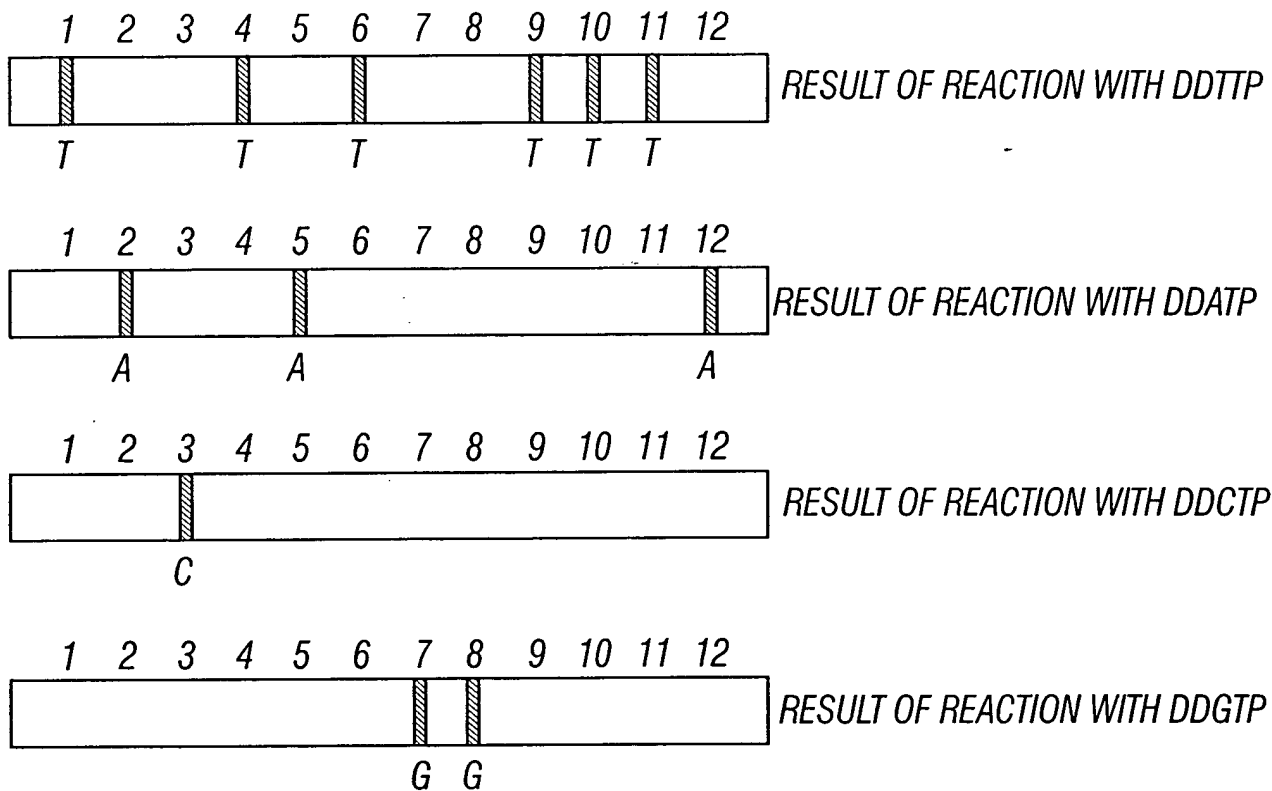


FIG. 20A

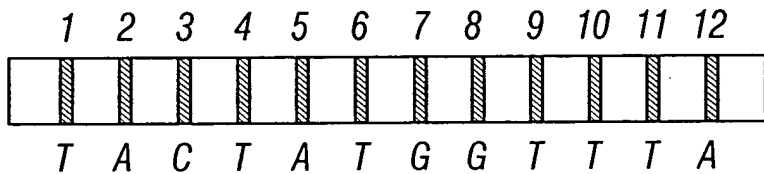


FIG. 20B

PCR amplify, immobilize, and expose OH
at random sites as in Fig. 5.

O-----A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T	G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G	T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G	T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T	T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T	A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T	-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----

Block ends opposite T, G' & C with ddATP, ddGTP, ddCTP
(shown in bold letters), remove ddNTPs, then add dTTP.

O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----	O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----	-----A-T-G-A-T-A-C-C-A-A-A-T-----

21A
21B

FIG. 21A

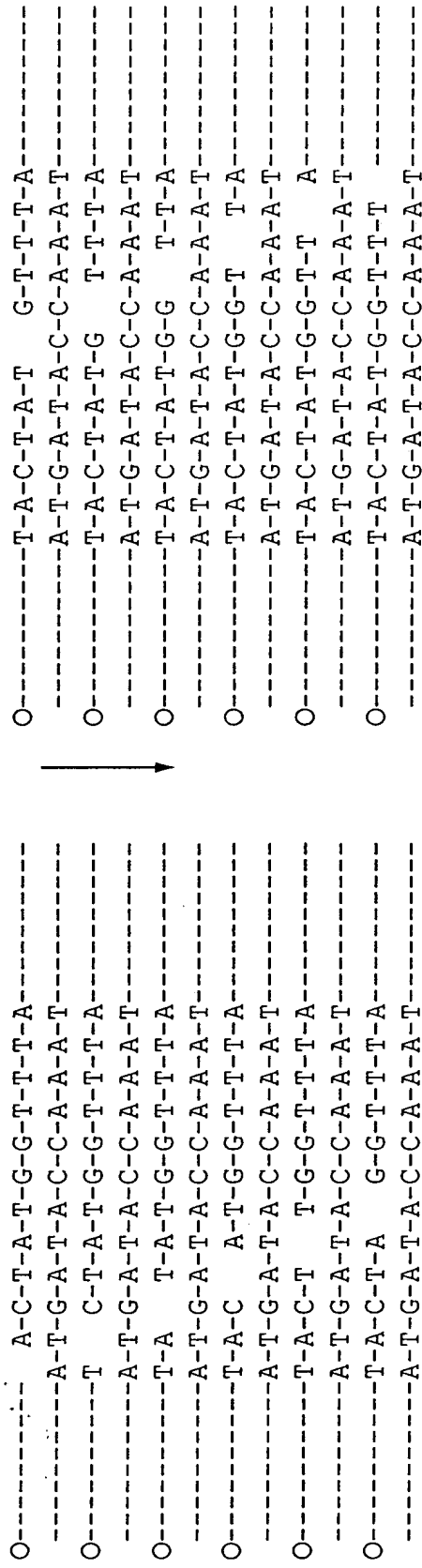
FIG. 21

[illegible]

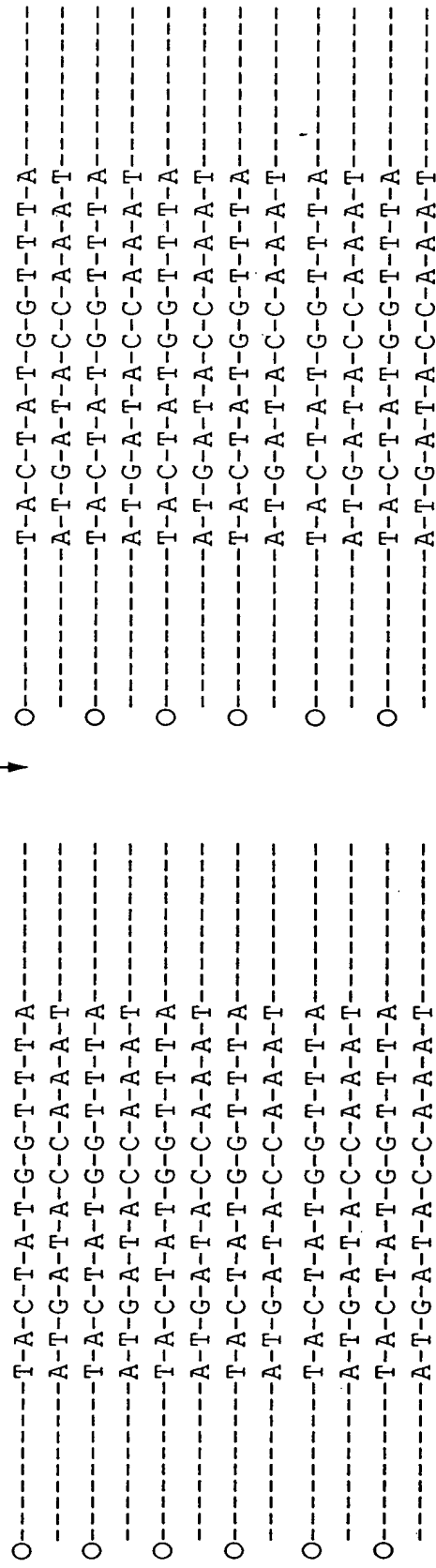
3' T A C T A T G G T (T) T A 5'

FIG. 22B

PCR amplify, immobilize, and expose 3' OH at random sites as in Fig. 5.



Block ends opposite T, G & C with ddATP, ddGTP, ddCTP
(shown in bold letters), remove ddNTPs, then add dTTP.



23A
23B

FIG. 23A

FIG. 23

Block ends opposite A, G & C with ddTTP, ddGTP, ddCTP
(shown in bold), remove ddNTPs, then add dATP.

O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----

Block ends opposite A, G & C with ddTTP, ddGTP, ddCTP
Block ends opposite T, G & C with ddATP, ddGTP, ddCTP
(shown in bold), remove ddNTPs, then add tagged ddTTP.

O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----
O-----T-A-C-T-A-T-G-G-T-T-T-A-----
-----A-T-G-A-T-A-C-C-A-A-A-T-----

Remove all non-immobilized DNA, then release, size-separate, and detect strands with tagged terminal T.

1 2 3 4 5 6 7 8 9 10 11 12



FIG. 23B

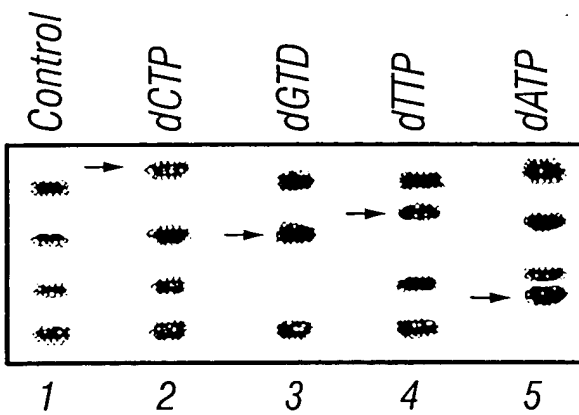


FIG. 24

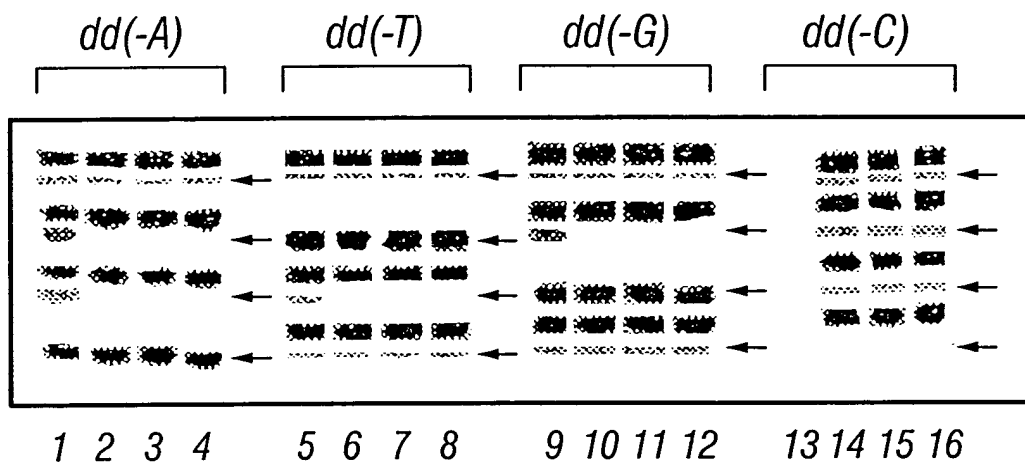


FIG. 25

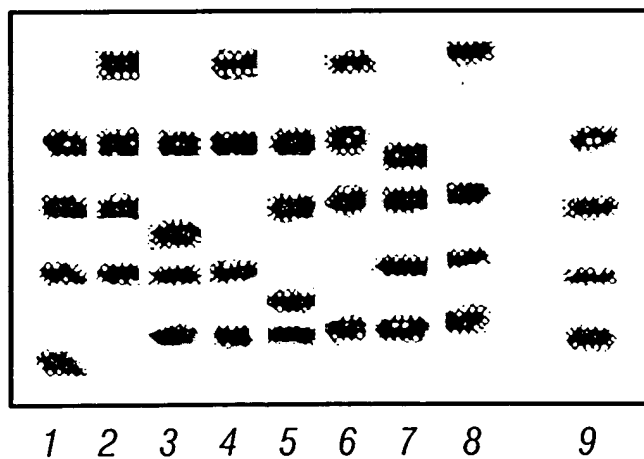


FIG. 26

FO9080" SHEF0860

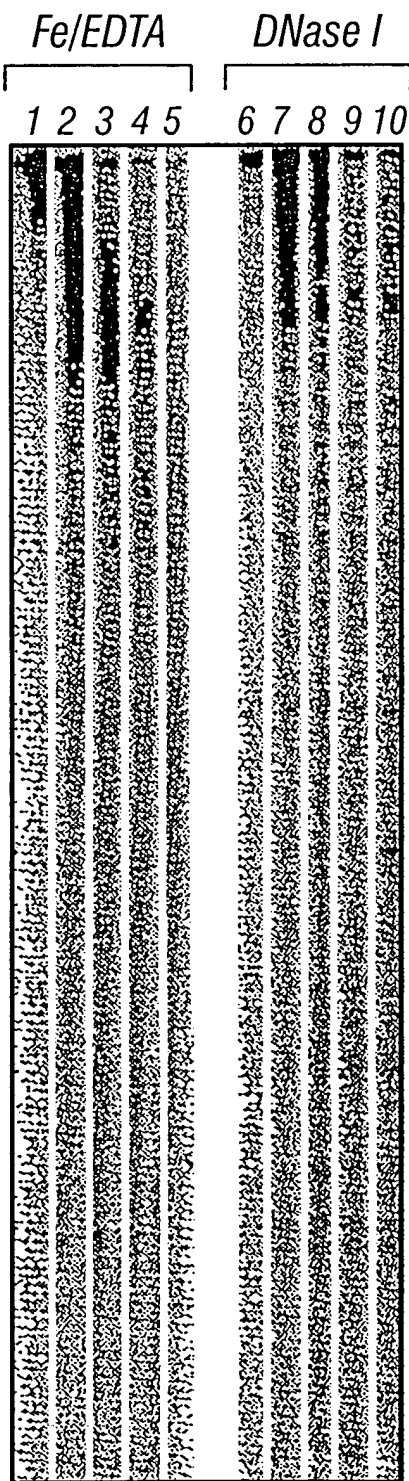


FIG. 27



FIG. 28A

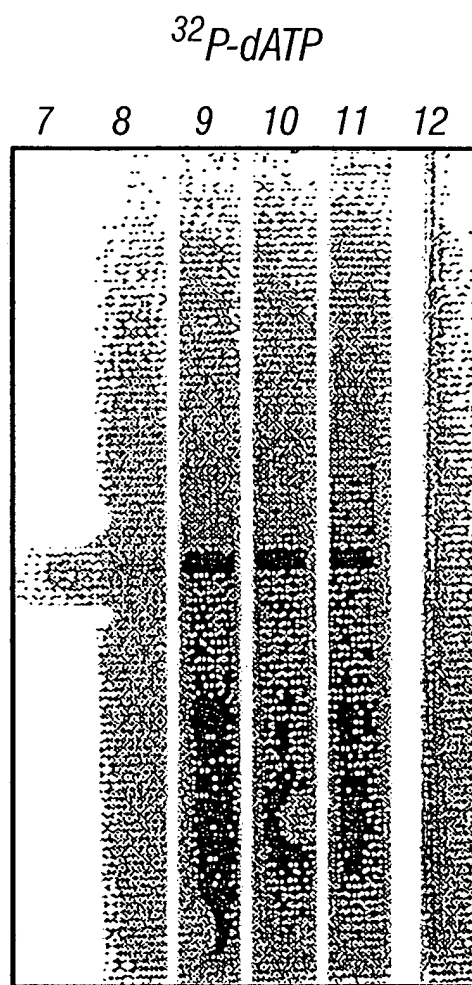


FIG. 28B

09801345.080601

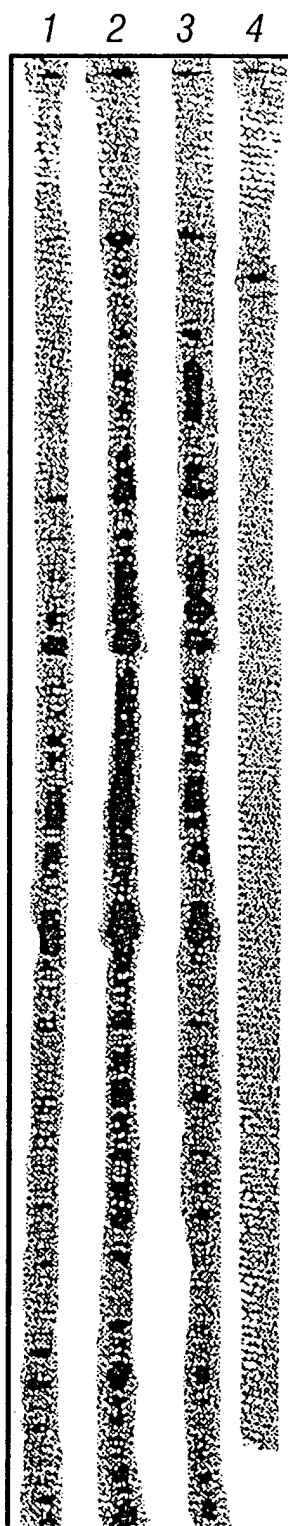
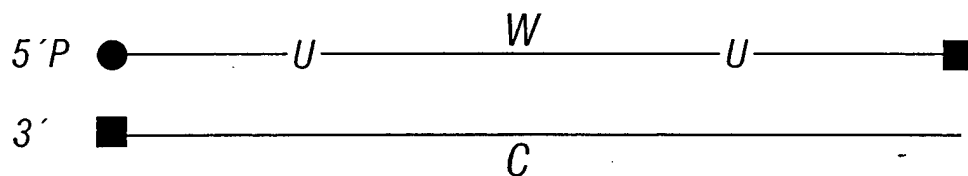


FIG. 29



● - 5' -PHOSPHATE

■ - 3' DIDEOXYNUCLEOTIDE OR NH_3 GROUP

FIG. 30A

5' —————	X	3' OH 4 C-X OLIGOS
5' —————	X	3' OH 16 C-XY OLIGOS
5' —————	XYZ	3' OH 64 C-XYZ OLIGOS

X, Y AND Z ARE A, T, G OR C

FIG. 30B

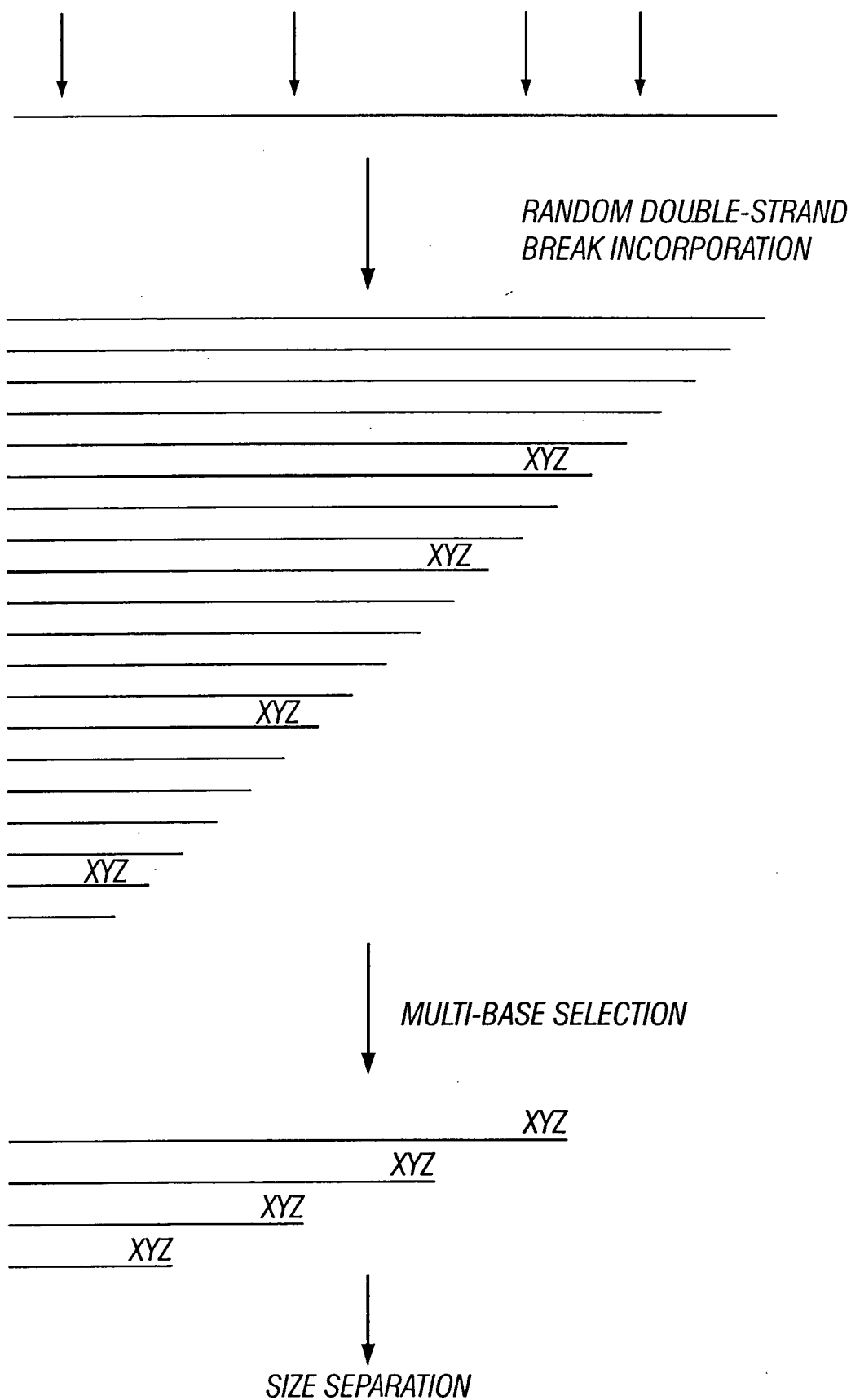


FIG. 31

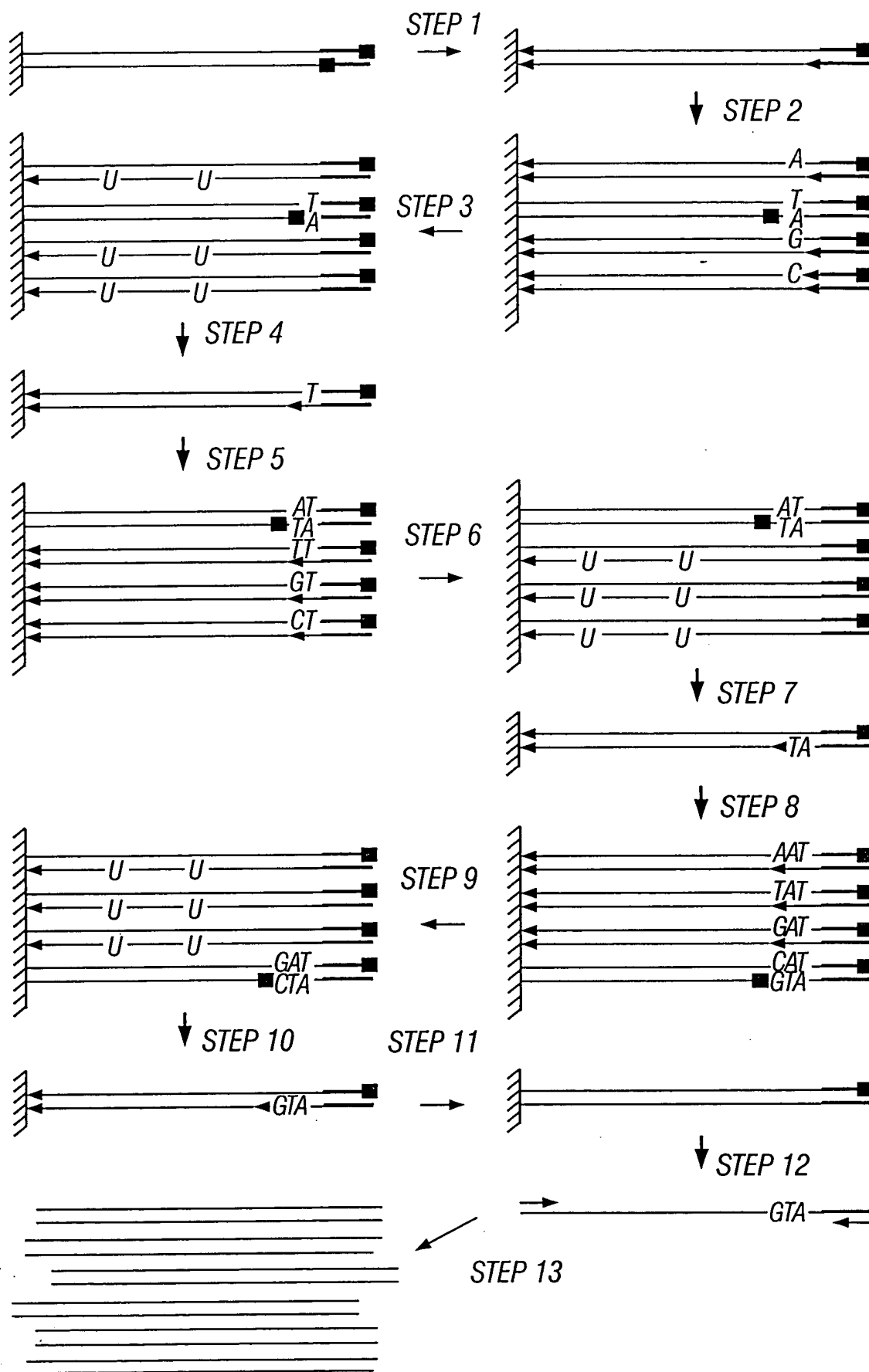


FIG. 32

09801346-080601

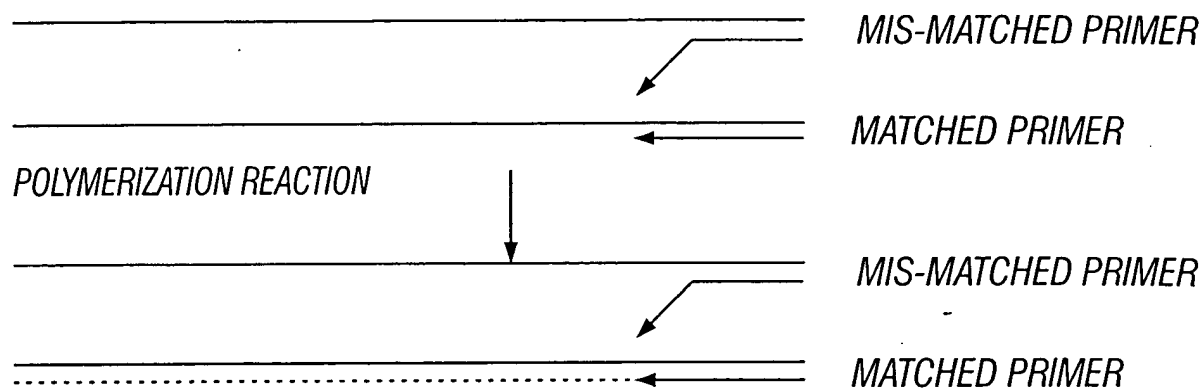


FIG. 33A

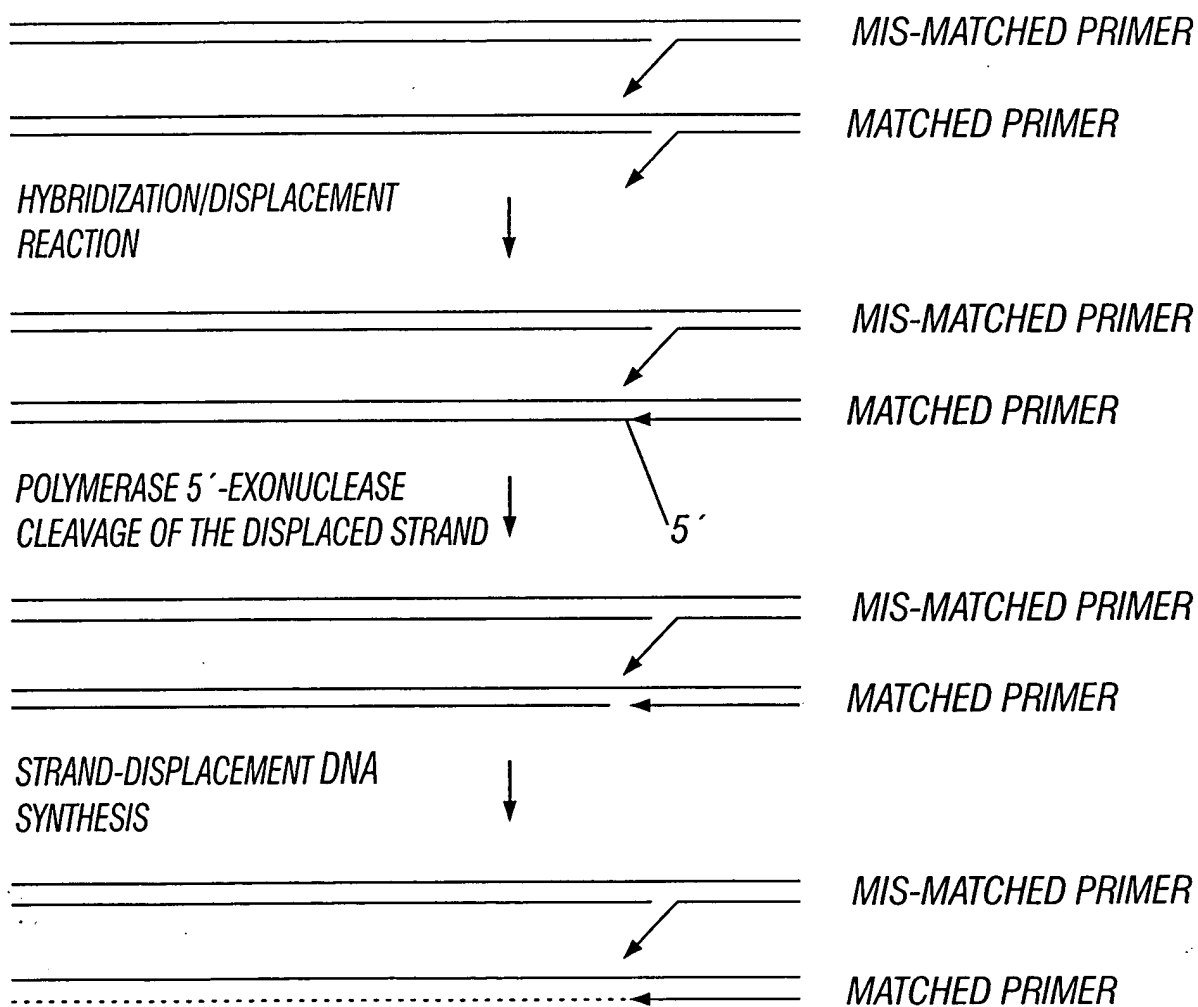


FIG. 33B